1401 H Street, N.W.
Suite 1020
Washington, D.C. 20005
Office 202/326-3815

ORIGINAL

Ameritech

James K. Smith
Director
Federal Relations

July 8, 1999

EX PARTE OR LATE FILED

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Ex Parte Presentation**
CC Docket 96-98
UNE Remand Proceeding

Dear Ms. Salas:

On Wednesday, July 7, 1999, John Lenahan, Christopher Heimann, Rhonda Johnson and I met with Carol Mattey, Claudia Fox, Jake Jennings, Jodie Donovan-May, Sanford Williams, Christopher Libertelli, Julie Patterson and Jerry Stanshine to discuss Ameritech's position in the above referenced proceeding as set forth in the attached material.

Sincerely,

Attachment
cc: C. Mattey
C. Fox
J. Jennings
J. Donovan-May
S. Williams
C. Libertelli
J. Patterson
J. Stanshine

SUPREME COURT OPINION

The Supreme Court held that the Commission's initial unbundling order erred in two principal respects.

First, the Court found that the Commission started from the wrong premise in viewing section 251(d)(2) as a grant of discretion, rather than a limiting standard.

- Section 251(d)(2) establishes "clear limits" on ILEC unbundling obligations.

- FCC must construe section 251(d)(2) with reference to the two central purposes of the 1996 Act:

    - **Bringing consumers the benefits of meaningful competition**
        - FCC goal should be to promote competition, not competitors, and not merely fastest possible entry by the maximum number of competitors.

    - **Encouraging new investment and innovation**
        - FCC must recognize social costs of unbundling requirements.

Second, the Court identified two independent reversible errors in the Commission's substantive interpretation of section 251(d)(2).

- FCC must consider whether a network element is reasonably and practicably available from sources outside the ILEC's network (including through self-provision).

- FCC may not again conclude that any increase in cost or decrease in quality imposed by denial of a network element constitutes "impairment."

    - Court elaborated by explaining that lack of access to a ladder is not impairment if, using a shorter ladder with arms outstretched, one can change a lightbulb. It further noted that a mere increase in cost (or decrease in quality) would constitute impairment only in a perfectly competitive market in which all entrants were pricing at the margin.

        - *The clear implication of these observations is that if a CLEC can earn a normal economic profit (and enter the market within a reasonable time) without network elements, it is not impaired by the lack of access.*

MEANING OF IMPAIR

A CLEC is impaired in its ability to provide service if the lack of access to that element would prevent a reasonably efficient competitor from providing the services it seeks to offer within two years and from earning a competitive return on capital in the provision of those services over the life of its investment.

- Impairment relates to the *ability to provide service*, not the ability to earn a greater profit. (The issue is whether CLEC is able to reach the lightbulb with outstretched arm using its own facilities.)

- Touchstone must be reasonably efficient CLEC, not the unrealistic, individualized business plans of each and every CLEC.

    - 251(d)(2) must be construed so as to promote competition, not individual competitors.
    - Considering individual business plans and needs of each CLEC would be incompatible with both national list & national standard.

- 2-year time-frame in FTC/DOJ Merger Guidelines & MCI/WorldCom Merger Order, would not delay competition because the threat of entry constrains the exercise of market power even before actual entry.

- Proposed "materiality" standard is a shell game: throw the word "material" into an otherwise unaltered analysis.

    - CompTel's "model" requesting carrier is not a reasonably efficient competitor but the theoretically least efficient competitor with the most ambitious plans.

- AT&T argument that any increase in cost, decrease in quality, reduction in scale or scope of offering or any delay constitutes impairment is a non-starter:

    - Flatly at odds with Supreme Court ruling.

    - Based on myopic analysis (isolating one CLEC cost disadvantage and ignoring CLEC advantages) – the very type of analysis AT&T has long criticized. Wall Street certainly does not view CLECs in such marginal terms. (See Attachment A)

    - Ignores facilities deployment by CLECs and AT&T's $100 B+ cable telephony investment.

PROPRIETARY NETWORK ELEMENTS

- The meaning of proprietary should be consistent with the longstanding principle of protecting intellectual property.
    - One of the core goals of the 1996 Act is to promote investment and innovation. Section 251(d)(2) generally, and the definition of proprietary, in particular, must be construed with reference to this goal.
    - Allowing access to proprietary elements so long as they are not "disclosed" would be inconsistent with the language of the Act. The Act, by its terms, speaks of access to proprietary network elements, not disclosure of proprietary information.
    - Protecting disclosure, not use, would also turn intellectual property law on its head: Intellectual property laws restrict access and mandate disclosure.
    - Protecting disclosure would be useless because the whole point of preventing disclosure of proprietary information is to prevent others from *using* it. If proprietary elements must be unbundled, the benefits of confidentiality are lost.
- The "necessary" test reflects the fact that some nonproprietary network elements contain proprietary features, functions, or capabilities.
    - The issue then is whether the proprietary aspect is necessary to make the element usable; and if so, whether the CLEC can self provide the proprietary function.
    - Examples: access to AIN services (which are proprietary) is not needed for CLEC to use service creation environment; access to routing table is not needed for CLEC to use ULS.

UNIFORM NATIONAL STANDARDS ARE APPROPRIATE; A UNIFORM NATIONAL LIST IS NOT.

- Uniform national list is inconsistent with Supreme Court mandate to consider availability of alternatives outside the ILEC's network.
    - The feasibility of deploying switches, loops, and transport varies greatly from market to market.
- Uniform national standards tailor UNE requirements to actual market need.
    - In contrast, uniform national list necessarily would be over or underinclusive, as even MCI concedes (MCI Reply at 6, 10).
    - CLEC claims that overbroad unbundling requirements are not a problem because CLECs will only use UNEs when needed are wrong and inconsistent with the Supreme Court decision.
- Uniform national standards offer all of the ostensible advantages of a uniform national list:
    - Ensure predictability of outcomes
    - Permit ubiquitous market entry
    - Facilitate state arbitrations
    - Avoid litigation
- Uniform national standards greatly reduce need for follow-up proceedings.
    - Create "self-executing" sunset, which phases out UNE requirements automatically as they are no longer needed.
        - Avoid need for follow-up proceedings.
        - Avoid social costs of "regulatory lag"
        - Concerns about regulatory lag are compounded by difficulty of removing regulatory crutch (equal charge per unit of traffic rule; ISP access charge exemption) once it is extended.
- The *real* reason CLECs seek uniform list is to drive a least common denominator approach to UNEs.

IMPLEMENTATION OF UNIFORM NATIONAL STANDARDS

- Ameritech proposes the following measures to facilitate implementation of uniform national standards:

    - ILECs should be required to post on the Internet a listing of all required network elements by relevant locational indicia (*e.g.* by wire center for switching, loops, and transport) (See Attachment B)

    - All ILEC Internet postings should be updated at the same, specified interval *e.g.* on January 1 and July 1 of each year.

    - ILECs should be required to notify CLECs with which they have interconnection agreements when network elements are no longer required in particular areas. Such notice should be provided no later than the posting of the revised UNE list on the Internet and should be sent to all signators to each relevant interconnection agreement.

    - To facilitate CLEC planning, any element that is required in a particular area as of the date of the request for interconnection should continue to be required in that area for at least one year, irrespective of whether the element is removed from the list prior to the execution of the contract.

    - Section 252(i) rights should be co-extensive with those accorded to the signators to the original interconnection agreement.

    - If, during the term of an interconnection agreement, a network element covered by the agreement is removed from the list of required elements in a particular locale, the element should continue to be required in that area for a reasonable period of time, *e.g.* - the longer of: (1) one year or (2) the term of the interconnection agreement, but for no more than two years.

CIRCUIT SWITCHING

ILECs should not be required to provide access to unbundled local switching in any wire center in which collocation is available that is located in a rate center that is being served by at least one CLEC circuit switch. Access to the routing table should not be required even where access to the switch itself is required.

73% of Ameritech's wire centers would remain available under this test.

- ILECs presented substantial factual data; CLECs did not:
    - CLEC switches have already been assigned to a significant number of rate centers (over one third of BOC and GTE rate centers) (See Attachment C summarizing CLEC switch deployment in Ameritech region).
    - CLECs have already deployed enough switches to accommodate all forseeable demand for the next several years.
        - Assuming switch capacity of 50K lines, by the end of 1999, CLECs will have deployed a sufficient number of switches to serve almost 1/3 of the nation's access lines.
    - Switch deployment continues at a rapid pace: since January 1998, CLECs have deployed almost a switch a day.
- CLECs can deploy switches quickly, easily, and on a cost-effective basis:
    - At least ten vendors compete vigorously for CLEC business.
    - Switch prices have declined dramatically.
    - Vendors have targeted CLECs as key growth market and have developed a range of switching options that cater to specific CLEC needs – e.g., fully scalable switches.
        - Vendors provide <u>substantial</u> financial and technical support.
        - Switches can be deployed quickly – generally within 6 months or even less.
- Most CLECs that filed comments do not claim to need unbundled local switching in most areas of the country and do not ask for it.

UNBUNDLED LOCAL SWITCHING IS NOT NEEDED FOR MASS MARKET ENTRY

CLECs that seek ubiquitous access to unbundled local switching do not dispute the facts cited by ILECs, nor do they claim (or provide any evidence) that access to unbundled switching is required for widespread business entry. They claim, instead, that CLECs cannot use their own switches to offer mass market service. Their arguments are meritless.

- **First, CLECs need not duplicate the existing ILEC switch infrastructure.**
    - 80% of all ILEC wire centers serve fewer than 20K lines; more than half serve fewer than 5000 lines.
    - In contrast, CLEC switches can serve 50K lines or more, and because of the rapidly declining cost of fiber, can be used to serve a broad geographic area.
    - The FCC recognized that ILEC switches serve fewer customers and smaller areas than CLEC switches in the *Number Portability* proceeding.
    - *Cost of deploying switches that could serve 20% of the market is less than $4 B:*
        - This is half of what AT&T spends in capital expenditures in a single year, and it is dwarfed by its $100B+ cable acquisitions.
        - It is also much less than MCI's annual capital expenditures.
        - Even RCN recently closed on a $1 B line of credit that, coupled with its cash on hand, "gives it $2.5 B to fund network expansion and continuing operations." (Comm Daily 6/7/99)
- CLECs do not need to use circuit switches – AT&T has announced that it will not purchase any more circuit switches. *No CLEC claims that packet switches are too expensive.*
- **Second, claims that collocation and transport costs are a barrier to mass market service are a red herring.**
    - CLECs enjoy overall cost advantages in the provision of switching. They can deploy much more efficient switching architecture, taking advantage of dramatic reductions in transport costs and improvements in both digital line carrier and switch technology.

MASS MARKET ENTRY (CONT'D)

- Fitzsimmons affidavit shows that CLECs can provide competitive local service to both residential and business customers using their own switching and transport on a highly profitable basis in both large and small metropolitan areas.
    - Fitzsimmons assumptions are extremely conservative (*e.g.*, no cream skimming). Of particular significance, Fitzsimmons assumed *higher* collocation costs than are alleged by AT&T.
    - Fitzsimmons estimates of collocation costs are consistent with 4/99 Salomon Smith Barney report (Attachment D).
- If collocation costs were the barrier to self-provisioned switching that AT&T claims, CLECs would not have installed so many switches, nor would they be obtaining collocation space at such a rapid clip:
    - FCC has estimated that, as of mid-1998, CLECs were collocated in 5000 wire centers.
    - CLECs are collocated in almost 1/3 of Ameritech wire centers.

- **Third, the Hot-Cut Process is Not a Barrier to Mass Market Competition**
    - Ameritech has enough capacity to provision unbundled loops at a rate that far exceeds any reasonably forseeable level of demand.
        - Ameritech has provisioned 185,000 loops and is currently staffed to provision another 117,000 by end of year.
        - Mayer affidavit shows that Ameritech can easily augment capacity through overtime, additional hires, or both.
        - *Based on records of actual performance,* Ameritech could cut-over 18% of the lines in its largest offices in 1 year just by using overtime. With additional hires, Ameritech could cut-over the *entire* office. In medium and small sized offices, the story is much the same. (See Attachment E)
    - Ameritech provisions loops in accordance with standardized procedures and performance reporting requirements that are spelled out in its agreements.
        - To the extent some other ILEC has not sufficiently standardized its procedures, the FCC should fix that problem, not throw out the baby with the bathwater.

THE UNE-P IS NOT NEEDED FOR MASS MARKET COMPETITION

- To the extent a component is not required, the UNE-P cannot be bootstrapped.

- Contrary to AT&T and MCIWorldCom claims, the lack of significant mass market competition to date has nothing to do with the absence of the UNE-P.

    - No CLEC is serving mass market even where the UNE-P is available
    - "As is generally acknowledged, the most natural local entry strategy for most CLECs is to target higher volume customers first, and then, as it builds facilities and wins a customer base, to expand and compete for smaller businesses and residential customers." (AT&T Reply at 83)
    - AT&T not using UNE-P where it's available (e.g. NY and Texas).
    - MCI engaged in targeted marketing in New York *(See New York Times 7/1/99:* "MCI Worldcom Inc. offers local phone service in New York *but makes only lackluster efforts to market it to consumers. It is very hard, if not impossible, to find billboards, radio or television advertisements or direct mail campaigns pitching MCI's residential local service.")*

- UNE-P is not a vehicle for mass market competition. It is a vehicle for "cream-skimming" and red-lining.

    - Resale is cheaper for all but high-end customers.
    - Deaveraging petition betrays real strategy of AT&T & MCI.
    - So does significant minimum charge for low-volume users.
    - MCI tells investors and analysts it is not interested in mass market (*NYT 6/7/99:* "Before acquiring MCI, WorldCom served hardly any residential customers, and none of the top WorldCom executives seem particularly enthusiastic about consumer markets now.")
    - When pressed by regulators, MCI has repeatedly refused to commit to using the UNE-P for mass market strategy.

- Availability of the UNE-P thus stands as direct threat to mass market consumers, particularly those in rural areas. It will aggravate universal service issues associated with current social pricing of residential services.

ADVANCED SERVICES

ILECs should not be required to unbundle new equipment used to provide advanced telecommunications capability, including DSLAMs, packet switches, and any other new technology that may yet be developed for such purposes.

DSLAMS

- ILECs have no advantages in the installation and use of the facilities, such as DSLAMs, used to provide advanced services because such facilities are not part of their legacy networks.

- CLECs can readily acquire and install DSLAMs at a reasonable cost (see Attachment D) and on an equal (or better) footing with ILECs.

    - Multiple vendors
    - DLECs have substantial market capitalization and have entered significant strategic alliances with vendors and industry players.

- The Commission has already taken the only steps necessary to ensure that CLECs have access to the facilities they need to provide advanced services.

    - It has previously required ILECs to unbundle loops, and presumably will reaffirm that requirement where alternative facilities are not available.
    - It has also taken steps to ensure the availability of adequate collocation and interconnection.

- CLECs have purchased and deployed more DSLAMs than ILECs and therefore presumably can, if anything, negotiate better terms and conditions than ILECs.

- Market analysts have concluded that DLECs, like NorthPoint, will be highly successful, can break-even with only 60 end-users per central office, and have a "first-mover" advantage over ILECs (Attachment F).

- The majority of CLECs offering advanced services do not generally ask for unbundled access to DSLAMs.

    - If start-ups like NorthPoint, Covad, Rhythms, Network Access Solutions, etc, do not need these UNEs, then no reasonably efficient CLEC does.

ADVACNED SERVICES (CONT'D)

PACKET SWITCHES

- Packet switches are new technology; they are not part of ILEC legacy networks. Requiring unbundled access would be antithetical to goals of the Act.

- Far from needing unbundled access to ILEC packet switches, CLECs are *better* positioned to deploy packet switches than ILECs.

    - ILECs have legacy circuit-switched network. CLECs can deploy state-of-the-art packet switches from day-one. *E.g.* AT&T cable telephony network.

- Packet switches offer CLECs significant competitive *advantages* over ILECs. They are much cheaper than circuit switches and capable of handling far more traffic. Thus CLECs have every incentive to deploy them.

    - Intermedia, which has over *200 ATM switches,* states in its 3/98 10K: "An ATM switch can handle approximately ten times as many calls as a voice switch and costs approximately one tenth as much as a voice switch, yielding a cost reduction of up to 99% of the switching components of local telephone calls, compared to the traditional switching method."

    - Capable of handling high-speed data traffic.

- There are no significant operational barriers to deployment of competitive packet switches.

- The only asserted need for access to ILEC packet switches is to obtain unbundled access to ILEC DSLAMs, but there is no conceivable basis upon which the FCC could require the latter.

OTHER ELEMENTS

- *Local Loops* should generally remain available, *except* for loops serving large business customers (*i.e.* with 20+ lines) in wire centers with 40,000 or more lines and in which alternative loop facilities have been deployed.

    - No one disputes that in some areas, for some customers, self-provision is feasible.

    - Roughly one third of the local loops served by CLECs are self-provisioned. *See* Attachment G.

- *Interoffice Transport* should not be available (1) in any wire center serving 40,000 or more lines with existing collocation or (2) in any central office in which collocation is available and in which competitive interoffice transmission facilities have actually been deployed.

    - No one disputes that in some areas, for some customers, inter-office transport is feasible to self-supply.

    - *Shared transport* is not a UNE and should not be required, in any event, where access to unbundled local switching is not required.

- *Signaling* should be available only when CLECs are using unbundled local switching, as even AT&T concedes.

- *OS/DA* need not be available as AT&T concedes.

Attachment A

Merrill Lynch

In-depth Report

United States
Telecommunications/Services

3 June 1999

Mark Kastan, CFA
Vice President
(1) 212 449-3241
mark_kastan@ml.com

Daniel Reingold, CFA
First Vice President
(1) 212 449-5631
daniel_p_reingold@ml.com

Telecom Services — Local

CLEC Vital Signs: Update For 1Q99 Results And Trends

Reason for Report: 1Q99 Results

Investment Highlights (Continued)

- After the reporting of 1Q99 results, we have made forecast revisions for a number of the CLECs we follow. For e.spire, we raised our full year revenue estimate and narrowed our EBITDA loss forecast to reflect stronger than expected 1Q99 results as well as a more aggressive forecast for growth at Network Technology and reciprocal compensation revenues. For Electric Lightwave, we raised our revenue expectations and widened our EBITDA loss estimate to reflect the stronger than expected 1Q99 top line performance as well as the drag on 1H margins from pre-paid phone cards. For ICG, we raised both our revenue and EBITDA estimates to reflect a more aggressive outlook for the growth in reciprocal compensation revenues. For RCN, we narrowed our EBITDA loss forecast to reflect the stronger than expected EBITDA performance during 1Q99. We note that we have made no material changes to our full year '99 forecasts for Intermedia, NEXTLINK and Teligent.

- CLEC stock performance was very strong during 1Q99, with the group outperforming the S&P by 51%. Leaders were e.spire (+111%), Nextlink (+110%) and RCN (+103%). GST (+69%), Intermedia (+49%), McLeod (+40%), Teligent (+36%), US Lec (+18%) and Electric Lightwave (+13%) were all strong performers. WinStar (-3%) and Hyperion (-21%) disappointed, but both significantly outperformed the S&P in 4Q98. Year to date, through 5/24/99, CLECs have outperformed the S&P by 81% with NEXTLINK (+170%) and RCN (+135%) out in front. For the balance of the year, we expect continued strong relative performance for the group due to a combination of: 1) growing investor confidence in CLEC financial performance following a strong 1Q99 reporting cycle; 2) strong group funding position following a spate of recent equity and high yield offerings; and, 3) increasing investor focus on the prospects for industry consolidation following the flurry of telecom sector M&A activity including AT&T/MetroNet (March 5), US WEST/Global Crossing (May 17), Liberty Media's acquisition of Teligent's largest shareholder, The Associated Group (June 1) and the Qwest equity stake in Advanced Radio Telecom (June 1).

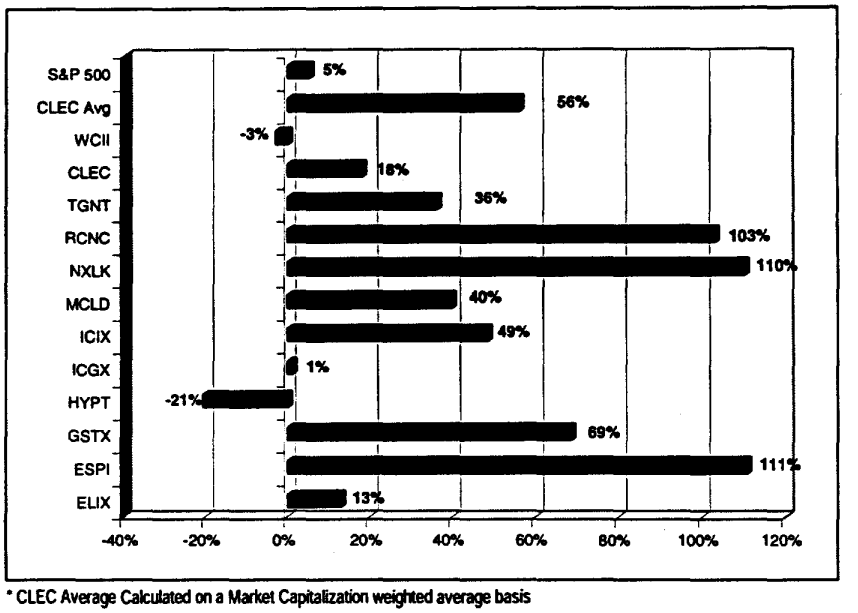
- On May 26, we upgraded our intermediate term opinion on NEXTLINK (NXLK, D-1-1-9, $76.19) from Accumulate to a Buy as a result of five key factors: 1) a recently completed $580M follow on stock offering and a $1B high yield bond offering gave NEXTLINK the strongest funding position in the CLEC sector; 2) announcement of a national data strategy that we estimate will contribute almost $5B in revenues and $2.2B in EBITDA by '08; 3) increased estimates of NEXTLINK's addressable local and long distance markets due to the company's LMDS (28 GHz) wireless broadband licenses and a network agreement with Level 3, respectively; 4) potential for expansion of the current business plan into Europe via facility swaps for fiber network and/or via wireless broadband capacity; and 5) an increased 12 to 18 month price objective of $140 (84% upside) based the average of our YE'99 and YE'00 PMV estimates derived from our 10 year DCF model.

- As a result of significantly enhanced prospects for follow-on consolidation activity in the CLEC sector following the USW/GLBX merger announcement as well as recent major transactions by AT&T, WCOM, BEL, SBC, GTSG and others, on May 17 we upgraded our opinions to intermediate term Accumulate and long term Buy for both Intermedia Communications (ICIX, D-2-1-9, $24.00) and ICG Communications (ICGX, D-2-1-9, $17.88). Our 12-18 month price objective for Intermedia is $45, or 88% upside, and for ICG is $31, or 73% upside. Both estimates are based on our YE'00 DCF-based private market value estimate.

Stock Performance

During 1Q99, CLEC Stocks Outperformed The Market, Up 56%* On a Weighted Average Basis Vs. Only A 5% Increase For the S&P 500.

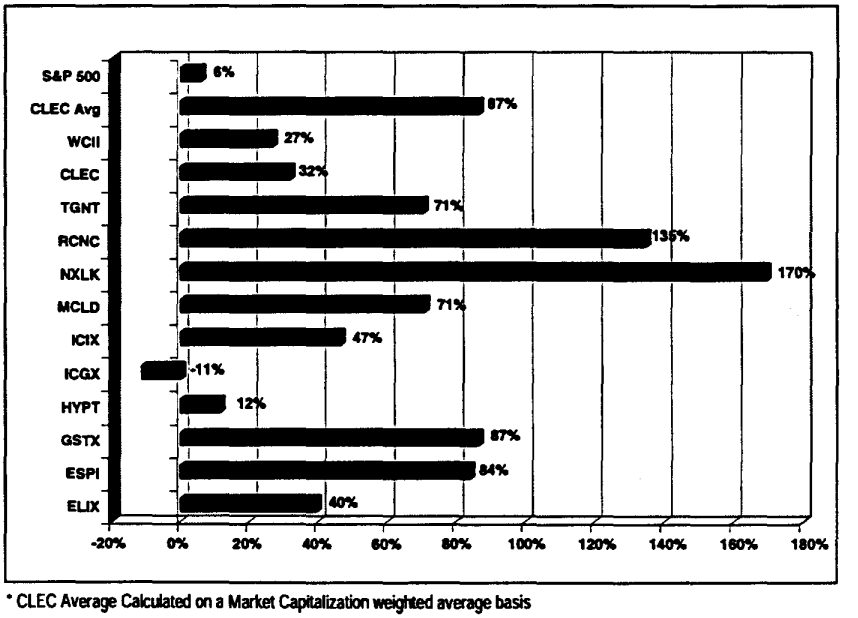
Chart 18: 1Q99 CLEC Stock Performance



* CLEC Average Calculated on a Market Capitalization weighted average basis

Year-To-Date, CLEC Stocks, On Average, Are Up 87%* Vs. 6% For The S&P 500. The Best Performing Stocks Were NEXTLINK (+170%), RCN (+135%), GSTX (+87%), ESPI (+84%), TGNT (+71%) and MCLD (+71%). ICGX (-11%) was the Only Underperformer.

Chart 19: Year-To-Date CLEC Stock Price Performance as of 5/24/99



* CLEC Average Calculated on a Market Capitalization weighted average basis

Attachment B

Ameritech Wire Center Profile of UNEs

Individual State Profiles will be available

Illustrative Examples

AIT WC	State	State_Rate Center	Switching	Loops	Transport	Lines	%R/Sm Bus
CHCGILLW*	IL	IL_CHICGOZN04		res/sm bus		153,284	89%
NPVLILNA*	IL	IL_NAPERVILLE		res/sm bus		107,316	80%
SPFDILES*	IL	IL_SPRINGFLD		res/sm bus		81,721	42%
CHCGILST*	IL	IL_CHICGOZN07	X	res/sm bus	**	74,410	85%
KNKKILKK*	IL	IL_KANKAKEE	X	res/sm bus	**	45,149	76%
GLELILGE	IL	IL_GLEN ELLYN		X	**	29,765	85%
MNHTILMA	IL	IL_MANHATTAN	X	X	**	3,259	94%
GLMNILGM	IL	IL_GILMAN	X	X	**	1,278	84%
IPLSIN01*	IN	IN_INDIANAPLS		res/sm bus		137,415	33%
SBNDIN01*	IN	IN_SOUTH BEND		res/sm bus		78,355	61%
HMNDINHE	IN	IN_HAMMOND	X	res/sm bus	**	38,446	86%
GALNIN01	IN	IN_GALENA	X	X	**	6,760	93%
ANARMIMN*	MI	MI_ANN ARBOR		res/sm bus		102,127	71%
DTRTMIBL*	MI	MI_DETROITZN1		res/sm bus		54,039	20%
MRQTMIMN	MI	MI_MARQUETTE	X	X	**	18,651	66%
CLMBOH11*	OH	OH_COLUMBUS		res/sm bus		94,454	17%
CLEVOH53	OH	OH_CLEVELAND	X	X	**	36,148	79%
PRBGOH66	OH	OH_TOLEDO	X	X	**	13,080	75%
APPLWI01*	WI	WI_APPLETON		res/sm bus		74,340	70%
MDSNWI15*	WI	WI_MADISON	X	res/sm bus	**	56,265	0.04%
STRTWI11	WI	WI_RACINE	X	X	**	11,559	79%

Note: Asterisk (*) denotes wire center with 40,000 lines or more. Competitor switch assignments to Ameritech rate centers are as reported in LERG as of 2/1/99. Collocation data and line counts used to determine UNE necessity based on Ameritech data.

**If AIT's assessment is challenged by a CLEC, AIT will make a competitive showing at the state level upon request of the CLEC within ten (10) days.

Blank or no indicator: Not a UNE X: UNE Res/Sm Bus: UNE

Attachment C

Table 2
Estimated CLEC Switch Deployment, Capacity and Addressable Market
Ameritech Territory, March 1999

	MCI WorldCom	AT&T	McLeod	All CLECs
Switches Deployed Currently[79]	23	15	13	112
Wire Centers With Collocation[80]	100	96	149	320
Rate Centers Served[81]	175	287	114	392
Distance to Served Rate Center (miles)[82]				
Average	14	27	26	20
Maximum	55	84	75	84
Addressable Switched Access Lines (millions)				
By Deployed Switches[83]	11.6	12.4	9.0	17.4
By Collocated Equipment[84]	6.9	8.0	6.6	14.7
Both Switches and Collocation[85]	6.8	8.0	6.4	14.4
Addressable Switched Access Lines (as a proportion of total Ameritech lines)				
By Deployed Switches	57%	61%	44%	85%
By Collocated Equipment	34%	39%	32%	72%
Both Switches and Collocation	33%	39%	31%	70%

These data show that the CLECs in Ameritech's territory have already achieved a very substantial presence, and have switches and collocation in place that can serve a

79 Local switches with an assignment to a rate center containing at least one Ameritech wire center, as recorded in the March 1999 edition of Telcordia Technologies' (formerly Bellcore) Local Exchange & Routing Guide (LERG), supplemented by data on local switches with end office interconnection arrangements with Ameritech as of March 1999.

80 Count of wire centers with collocation by named company as of March 1999. Last column represents count of wire centers with collocation by at least one CLEC. Derived from internal Ameritech data on collocation locations. Ameritech projects that 1,275 individual collocation arrangements will be place by year end 1999.

81 Total number of rate centers that are "assigned" in LERG to the local switches of the relevant CLECs.

82 Average and maximum aerial distances between the CLEC's switch(es) and the rate centers that are assigned to it in LERG, computed on the basis of the V&H locations recorded in LERG for the switches and the rate centers.

83 Total amount of switched access lines in Ameritech wire centers located in rate centers that have an assignment to at least one of the relevant CLEC's local switches.

84 Total amount of switched access lines in Ameritech wire centers located in rate centers that have at least one collocation arrangement by the relevant CLEC.

85 Total amount of switched access lines in Ameritech wire centers located in rate centers that have both (1) an assignment to at least one of the relevant CLEC's local switches; AND (2) at least one collocation arrangement by the relevant CLEC.

Attachment D

Economics of DSL

Capital Cost

One of the inherent strengths of DSL is that it is essentially an overlay network and the capital requirements are relatively low. We estimate that a typical full market deployment costs $10-$15 million for a large city and $5 million for a small city.

Figure 7. Select DSL Deployment Cost Estimates

Collocation Cost per CO	$30,000-$80,000
DSLAM installation per CO (with line cards)	$80-$110,000
ADSL Modem (CPE)	$300
CPE Installation Cost	$300-$600
Local loop rental	$7-$24 per month
Customer acquisition cost	$600-$1,100 per customer

Source: Salomon Smith Barney

Attachment E

SCHEDULE 1

CENTRAL OFFICE FRAME CAPACITY — COORDINATED LOOPS CURRENT CAPACITY

	(1) Current Complement of Frame Technicians	(2) Current Office Capacity (Loops Per Month)	(3) Incremental Capacity With Overtime (Loops Per Month and Incremental % of Office Per Month)
Large Offices (50,000 - 165,000 lines)	3 - 10	1,840 - 6,150	740 - 2,460 (1.48% to 1.49%)
Medium Offices (15,000 - 50,000 lines)	1 - 3	620 - 1,840	240 - 740 (1.60% to 1.48%)
Small Offices (400 - 15,000 lines)	0.2 - 1	120 - 620	50 - 240 (12.5% to 1.60%)

Note 1: Offices defined as large usually contain more than one switch and may contain more than one MDF, which is one reason why more frame technicians are assigned to them and can perform coordinated cut-overs at the same time.

Note 2: The numbers of loops set forth herein are actually quite conservative, in that the Schedule assumes frame technicians spend all their time on "coordinated" loops, when in fact they also complete "non-coordinated" orders, which take only about half as long.

Note 3: Adding overtime work actually increases total capacity by 40%. The percentages in Column 3 show how that 40% increase translates into the additional percentage of lines in the entire central office that can be cut over each month, as compared to current capacity.

SCHEDULE 2

CENTRAL OFFICE FRAME CAPACITY — COORDINATED LOOPS CUMULATIVE INCREMENTAL CAPACITY

	(1) Incremental Complement of Frame Technicians	(2) Incremental Office Capacity (Loops Per Month and Incremental % of Office Per Month)	(3) Incremental Capacity Plus Overtime (Loops Per Month and Incremental % of Office Per Month)	(4) Three-Shift Capacity (Loops Per Month and Incremental % of Office Per Month)
Large Offices (50,000 - 165,000 lines)	1 - 6	1,350 - 6,150 (2.71% to 3.73%)	1,600 - 7,620 (3.2% to 4.62%)	4,310 - 18,450 (8.62% to 11.18%)
Medium Offices (15,000 - 50,000 lines)	3 - 1	2,080 - 1,350 (13.9% to 2.71%)	2,820 - 1,600 (18.8% to 3.2%)	5,530 - 4,310 (36.9% to 8.62%)
Small Offices (400 - 15,000 lines)	1.8 - 3	1,160 - 2,080 (290% to 13.9%)	1,600 - 2,820 (400% to 18.8%)	2,960 - 5,530 (740% to 36.9%)

Note 1: Offices defined as large usually contain more than one switch and may contain more than one MDF, which is one reason why more frame technicians are assigned to them and can perform coordinated cuts at the same time.

Note 2: The numbers of loops set forth herein are actually quite conservative, in that the Schedule assumes frame technicians spend all their time on "coordinated" loops, when in fact they also complete "non-coordinated" orders, which take only about half as long.

Note 3: The percentages given in Columns 2-4 show the cumulative additional percentage of total lines in the central office that could be cut over each month, as compared to current capacity.

Attachment F

Telecom Services

United States CLECs

U.S. Recommended List
The Answer to the Last-Mile Bandwidth Bottleneck.

June 1, 1999

NorthPoint (NPNT)

DSL Dominator

Analysts

Ken Hoexter
ken.hoexter@gs.com
(New York) 1-212 902-2646

Alexis Palmer
alexis.palmer@gs.com
(New York) 1-212 902-8076

Performance (%)

	1 mth
Absolute	70%
Rel to S&P 500	64%

Stock Data

52-Week Range	49-30
Indicated Dividend	Nil
Yield	-

Capitalization

Fully fd. Mkt Capitalization (bn)	$6.0
Net Debt (cash) (bn)	-$0.2
Total Enterprise Value (bn)	$5.8
Fully Diluted Shares (mn)	147.7

Price: $40.81 **S&P 500: 1294**

- We have initiated coverage of Northpoint Communications, and have placed the shares on our U.S. Recommended List.
- Using digital subscriber line (DSL) technology, Northpoint enables broadband transmission over existing copper wires, providing a solution to expand the last-mile bandwidth bottleneck.
- We believe insatiable demand exists for NorthPoint's nationwide DSL service, considering the explosive growth in data/Internet traffic.
- NorthPoint has a capital-efficient, fully funded, rapid market rollout strategy. The company should be operational in all 28 target markets by year end.
- NorthPoint has a solid entrepreneurial management team with strong strategic partnerships, including Microsoft, Tandy/RadioShack, ICG, Intermedia, @Home, Network Plus, Verio, Cable and Wireless, Frontier, Intel, Enron, Netopia, IXC Communications, and Concentric Network.

Table 4: Compelling Economics to Reach Gross Margin Breakeven

	Monthly Cost
Monthly Cost	
Upfront $120,000 CO cost capitalized over 48 months (a)	$2,500
Backhaul DS3 from CO to Node	1,600
Facilities, rent, power	1,700
Total Network Cost	35,800
End-User Contribution	
Average Rev. Per User	$120
Additional Revenue Streams (b)	15
Total Revenue Per User	$135
Less Unbundled Loop Cost	-21
Less DS3 Capacity Use	-5
Less Success Based Capital	-7
Total Revenue Per Sub	$102
Number of Subs Required to Reach Gross Margin Breakeven (on a *per-CO* basis)	57-60

Assumptions:
(a) We depreciate the equipment over four years, company may actually depreciate over five years. This would lower breakeven subs to 52.
(b) Additional revenue streams include assumed allocation of aggregation revenues

Source: Company reports and our estimates.

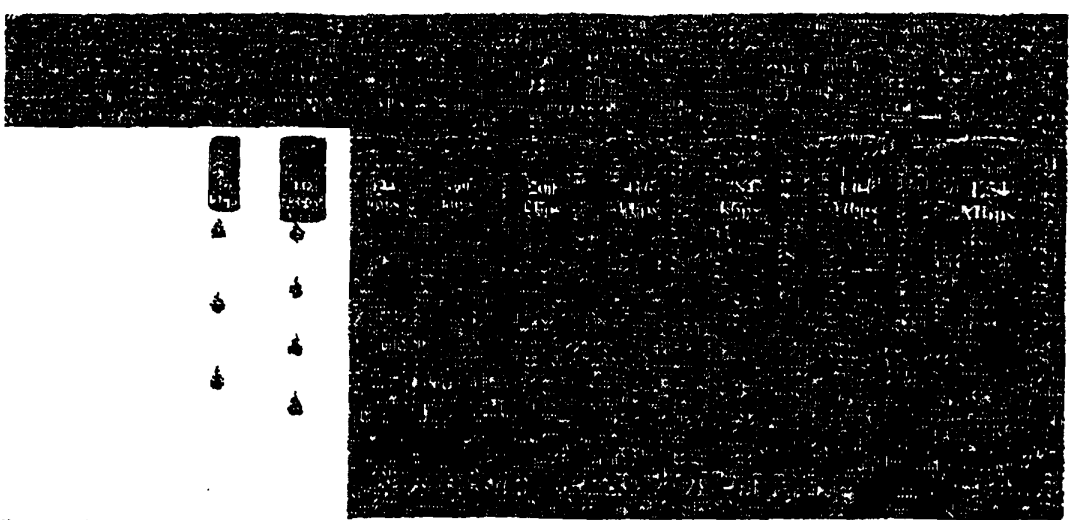
Varied Product Offerings

NorthPoint has designed its network specifically for business needs, providing fast data transmission at symmetrical speeds to and from the end user. Symmetry is necessary for advanced business applications such as video conferencing and web hosting. The transmission is dedicated and secure (unlike the service provided by cable modems, which run over a shared cable architecture), ideal for transmitting sensitive business information. Additionally, NorthPoint has designed its network so it can, in even the ultimate end-user customer can, increase the speed of the end user's connection remotely, with no additional equipment or capital costs. The company offers a range of attractive price performance options for its target market (see Figure 5).

NorthPoint Secures First-Mover Advantage With Rapid Market Entry

We believe NorthPoint is creating a strategic advantage by rapidly deploying its network, becoming the first nationwide DSL provider in many of its markets, and therefore establishing strong relationships with regional and national NSPs.

Figure 5: NorthPoint's Pricing is Attractive



Source: Company reports.

Figure 6: NorthPoint's Targeted Market Rollout

Source: Company reports.

NorthPoint first introduced commercial services in March 1998 in the San Francisco Bay Area and has subsequently launched service in 18 additional markets (see Table 5 and Figure 6). The company currently has more than 120 NSPs in its regions (including ISPs. Verio, Microsoft, and Concentric Network; CLECs: ICG, Intermedia, and Network Plus; and Long Distance Carrier: IXC). Based on its current deployment schedule, we believe that the company will be operational in all of its 28 markets by year-end 1999. NorthPoint currently has operations in 355 COs (and has secured an additional 415 COs) in its 19 operational markets. The company is well on its way to meeting our year-end 1999 target of 900 COs operational and 1,250 by the end of the first quarter 2000 in its 28 target markets.

Table 5: Markets Served

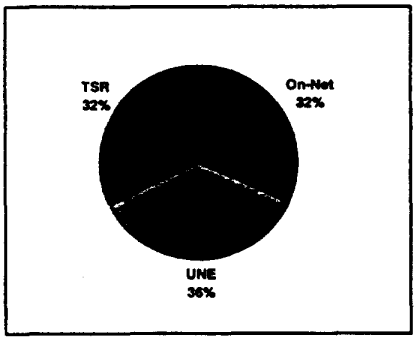
West	West	West
Los Angeles/Orange County	Los Angeles	Los Angeles/Orange County
	Phoenix	Phoenix
Portland	Portland	Portland
Sacramento	Sacramento	Sacramento
San Diego	San Diego	San Diego
San Francisco/Oakland/San Jose	San Francisco	San Francisco/San Jose/Oakland
Seattle	Seattle	Seattle
Central	Central	Central
Austin	Austin	Austin
Chicago	Chicago	Chicago
Cleveland		Cleveland
Columbus		Columbus
Dallas	Dallas	Dallas
Denver	Denver	Denver
Detroit	Detroit	Detroit
Houston	Houston	Houston
		Indianapolis
		Milwaukee
Minneapolis	Minneapolis	Minneapolis
Pittsburgh		Pittsburgh
San Antonio		
		Salt Lake City
St Louis		
East	East	East
Atlanta	Atlanta	Atlanta
Baltimore	Baltimore	Baltimore
Boston	Boston	Boston
Miami/Ft. Lauderdale	Miami	Miami
New York/Northern N.J.	New York	New York/Connecticut
Orlando		
Philadelphia	Philadelphia	Philadelphia
Raleigh-Durham	Raleigh	Raleigh
Tampa/St. Petersburg		Tampa
Washington, D.C./N. Virginia	Washington, D.C.	Washington, D.C.

Italics are cities that companies plan to enter.
NPNT should be in all 28 markets by year-end '99.
COVD should be in all 22 markets by year-end '99.
RTHM should be in 33 cities in '00, and 50 in '00.
Source: Company reports.

Attachment G

Local Line Mix at the End of 1Q99 Was Relatively Equally Balanced With 36% of CLEC Lines Supplied Via UNEs and On-Net and Resale (TSR) Each Accounting for 32% of Local Lines.

Chart 8: 1Q CLEC Line Mix



Source: Merrill Lynch Estimates

Table 11: Mix of Local Access Lines at end of 1Q99

	On-Net[1]	UNE[2]	TSR[3]	Total
ACG	0%	0%	100%	100%
CTE	33%	50%	17%	100%
e.spire	20%	40%	20%	100%
Electric Lightwave	79%	20%	1%	100%
Focal	0%	100%	0%	100%
Frontier	0%	2%	98%	100%
GST	55%	40%	5%	100%
Hyperion	57%	11%	32%	100%
ICG	51%	28%	21%	100%
Intermedia	7%	67%	26%	100%
McLeod	20%	12%	68%	100%
NEXTLINK	18%	80%	2%	100%
RCN	40%	0%	60%	100%
Teleport	80%	20%	0%	100%
US LEC	0%	100%	0%	100%
WinStar	24%	63%	13%	100%
MCI WorldCom (Brooks)	60%	35%	5%	100%
MCI WorldCom (MFS)	75%	25%	0%	100%
MCI WorldCom (MCIMetro)	50%	50%	0%	100%
AT&T (Local)	20%	15%	65%	100%
Sprint (Local)	0%	30%	70%	100%
Other	0%	0%	100%	100%
Average	**32%**	**36%**	**32%**	***100%***

1 On-Net: These access lines are provided 100% over the CLEC's own facilities including last mile either through wireline or wireless transmission.
2 Unbundled network elements (UNE): These access lines are provided over a combination of CLEC owned and leased facilities (especially last mile loops) from the ILEC.
3 Total service resale (TSR): These access lines are provided 100% over leased ILEC facilities.
Source: Merrill Lynch estimates